

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Canceled)

Claim 2 (Currently amended): The magnetic actuator according to claim 29[[1]], wherein the lesser density portion~~characterized in that the part (200) with reduced magnet weight includes one or more magnets (22, 24, 26) provided with at least one recess (21, 27) empty of solid material.~~

Claim 3 (Currently amended): The magnetic actuator according to claim 2, wherein~~characterized in that the recess (21) is a through hole.~~

Claim 4 (Currently amended): The magnetic actuator according to claim 29, wherein the lesser density portion includes at least one recess~~characterized in that the recess (21) is filled with a solid material having a (25) with lesser density[[,]] less than that of the magnet (24) bars.~~

Claim 5 (Currently amended): The magnetic actuator according to claim 4, wherein~~characterized in that the lesser density solid material is selected from semiconducting material, plastic material, soft magnetic material, dielectric material.~~

Claim 6 (Canceled)

Claim 7 (Currently amended): The magnetic actuator according to claim 29[[1]], ~~wherein~~characterized in that the reduced magnet weight part (200) with reduced magnet weight is a substantially rectangular plate.

Claim 8 (Currently amended): The magnetic actuator according to claim 29[[1]], ~~wherein~~characterized in that the reduced magnet weight part (200) with reduced magnet weight includes a magnet frame (24).

Claims 9-10 (Canceled)

Claim 11 (Withdrawn - Currently amended): The magnetic actuator according to claim 29, wherein the first and second magnet bars ~~are any of claims 9 or 10, characterized in that the magnets (26)~~ are in the form of orientated bars substantially normal to the displacement.

Claim 12 (Withdrawn - Currently amended): The magnetic actuator according to claim 29, wherein the first and second magnet bars ~~are respectively located any of claims 9 or 10, characterized in that the succession includes a magnet (26)~~ are respectively located at each end of the mobile magnetic portion.

Claim 13 (Withdrawn - Currently amended): The magnetic actuator according to claim 12, ~~characterized in that the end magnets~~
~~(26)~~ wherein the first and second magnet bars have a dimension in the direction of the displacement, substantially equal to the displacement.

Claims 14-17 (Canceled)

Claim 18 (Currently amended): The magnetic actuator according to claim 29, ~~wherein~~, ~~characterized in that~~ each attraction area (11, 12) has a geometry conjugate to that of the face (201a, 205) of the mobile magnetic portion (20) which must come into contact with it.

Claim 19 (Currently amended): The magnetic actuator according to claim 29, ~~wherein~~, ~~characterized in that~~ at least one of the attraction areas (11) includes a dielectric portion (111) so as to achieve capacitive contact when the mobile magnetic portion (20) is stuck on said attraction area.

Claims 20-28 (Canceled)

Claim 29 (Currently amended): A magnetic actuator, comprising:
a mobile magnetic portion including a magnet-based part
with reduced magnet weight, the reduced magnet weight magnet-

based part having an overall volume in which the reduced magnet weight occurs, and a mass, the mass of the reduced magnet weight part is less than the mass of a part having the same overall volume and whose overall volume is totally occupied by the magnet;

a fixed magnetic portion provided with at least two attraction areas for the mobile magnetic portion, and

means for triggering the displacement of the mobile magnetic portion, the mobile magnetic portion being in levitation when it is not in contact with one of the attraction areas,

wherein the reduced magnet weight~~magnet-based part includes an edge that faces one of the attraction areas and another edge that faces another one of the attraction areas, and the magnet-based part is reduced in weight in a portion that is spaced away from said edges~~comprises, in the direction of the displacement, a first magnet bar and a second magnet bar, the first and second magnet bars having a same magnetization orientation, and the first and second magnet bars being spaced by a lesser density portion having a density less than that of the magnet bars,

wherein said means for triggering the displacement includes at least one conductor arranged as at least two meanders each formed with sections of successive conductors in which a current flows in opposite directions, and

wherein, when the mobile magnetic portion is stuck on one of said attraction areas, the first and second magnet bars cooperate with one of the sections (31.1 or 31.2), and the current flows in the same direction in said one of the sections.

Claim 30 (New): The magnetic actuator according to claim 29, wherein the first magnet bar is associated with one of said at least two meanders, and the second magnet bar is associated with another of said at least two meanders.

Claim 31 (New): The magnetic actuator according to claim 29, wherein the current is a pulse current always circulating in a same direction, said pulse current triggering the displacement of the mobile magnetic portion towards one of the attraction areas regardless of the position of the mobile magnetic portion.

Claim 32 (New): The magnetic actuator according to claim 29, wherein the first and second magnet bars generate a magnetic field having a direction, a magnetic field being established in the lesser density portion, said magnetic field established in the lesser density portion having a direction opposite to the direction of the magnetic field generated by the first and second magnet bars.